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#23/Declaration
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

J. M. Steinke

A.P. Shepherd

Examiner: K. Hantis

Serial No.: 07/953,680

Group Art Unit: 2505

Filed: September 29, 1992

**For: METHOD AND APPARATUS
FOR DIRECT SPECTROPHOTO-
METRIC MEASUREMENTS IN
UNALTERED WHOLE BLOOD**

Atty. Dkt.: UTSK:142/BAH

CERTIFICATE OF MAILING
37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner of Patents, Washington, D.C. 20241, on the date below:

Date _____

David D. Bahler

**SECOND SUPPLEMENTAL DECLARATION OF A.P. SHEPHERD
UNDER 37 C.F.R. § 1.132**

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

I, A. P. SHEPHERD, do hereby declare and state:

1. I am a co-inventor of the above-identified patent application, and remain the President and Chief Executive Officer of A-VOX Systems, Inc. I signed Declarations Under 37 C.F.R. § 1.132 on December 12, 1994, and on August 14, 1995. I have reviewed the statements in my

previous declarations, and believe them to be accurate today except as updated by statements herein.

2. Without the aid of distributors, and using only direct-mail advertising, A-VOX Systems, Inc. sold approximately 34 AVOXimeter 1000's to hospitals in the United States in 1993. This resulted in cash receivables totaling \$267,582 for the oximeter and disposable optical cuvettes used with the oximeter.

3. In 1994, A-VOX Systems, Inc. sold approximately 94 AVOXimeter 1000's and continued to sell disposable cuvettes, resulting in accounts receivable of \$692,665, for the oximeter and disposable cuvettes. This represents over 250% of the cash receivables for 1993.

4. In 1995, A-VOX Systems, Inc. sold approximately 100 AVOXimeter 1000's and continued to sell disposable cuvettes, resulting in accounts receivable of \$772,527 for the oximeter and disposable cuvettes. This represents over 110% of the cash receivables for 1994.

5. In the first three quarters of 1996, A-VOX Systems, Inc. has sold approximately 140 AVOXimeter's and continued to sell disposable cuvettes, resulting in accounts receivable of \$916,992 for the oximeter and disposable cuvettes. This represents over 115% of the cash

receivables for the entirety of 1994. The projected gross sales for 1996 are approximately \$1.2 million, which would represent over 155% of the cash receivables for 1995.

6. I hereby declare that all of the statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified application, or any patent issuing therefrom.

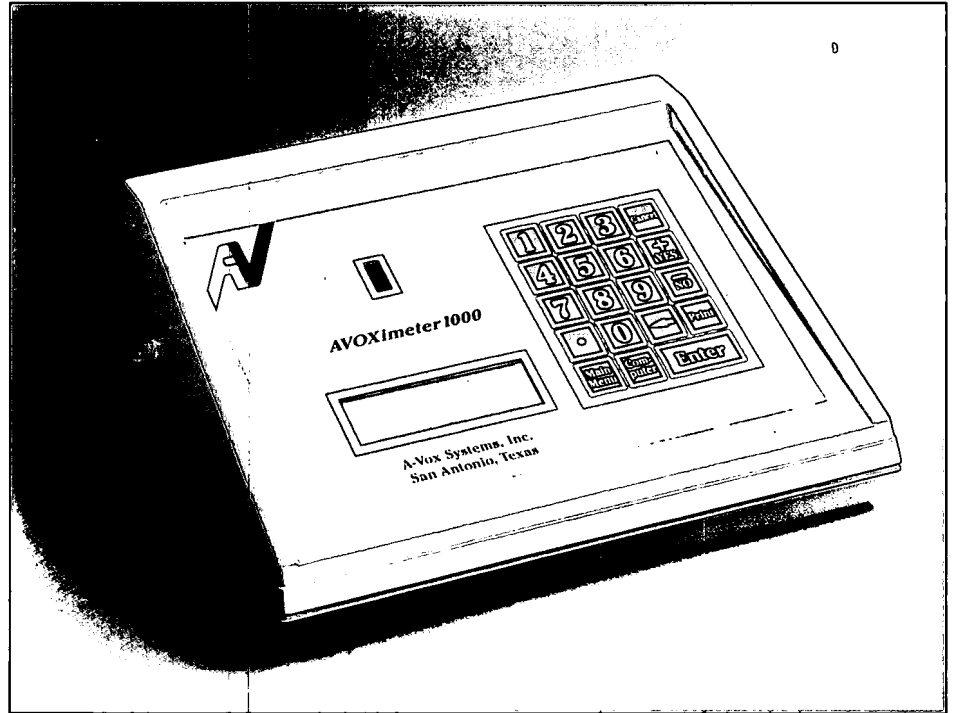
15 Oct 1996
Date

A. P. Shepherd
A. P. Shepherd

AVOXimeter 1000*

More than an oximeter
Designed specifically for the cardiac cath-lab

A-VOX Systems, Inc.
15315 Grey Fox Terrace
San Antonio, Texas, USA
78255-1210



Whole-Blood Oximeter

- Fast, accurate, inexpensive measurements:
 - O_2 Saturation
 - O_2 Content
 - Total Hemoglobin
- No interference from Cardio-Green® dye or carboxy- or methemoglobin
- Nine computed hemodynamic variables (including Fick Principle cardiac output)
- Easy-to-use disposable cuvettes*
- No maintenance
- Controls for easy calibration

* patent pending

AVOXimeter 1000

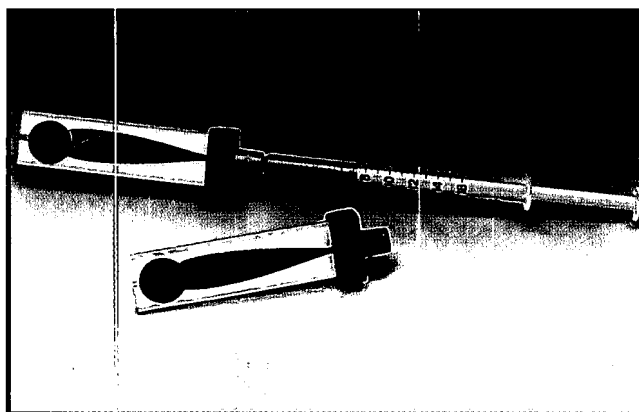
An advanced oximeter for fast, accurate, inexpensive measurements

Safe, convenient, disposable cuvettes

No sample preparation.

Simply inject sample into cuvette and insert cuvette into oximeter.

Sealed disposable cuvettes eliminate maintenance and assure operator safety.

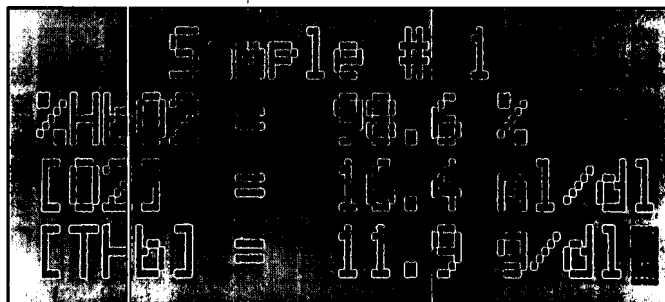


Fast, accurate results

Sample is analyzed in less than 10 seconds.

Illuminated display for easy reading in dim procedure room.

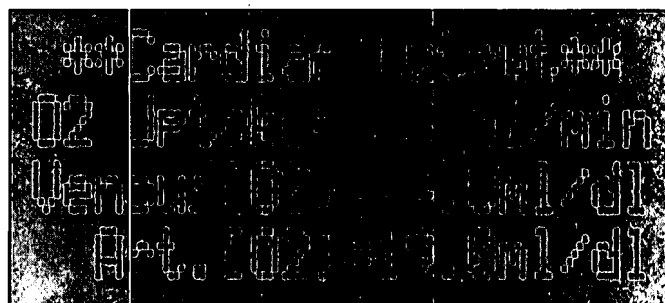
Data are stored for later analysis or printing.



Hemodynamic computations

Easy menu-driven operations.

Hemodynamic computations including Fick Principle cardiac output.



A-VOX Systems, Inc.

15315 Grey Fox Terrace
San Antonio, Texas 78255-1210
800-225-AVOX
(800-225-2869)
210-695-8242

Specifications

Measurements and Operating Ranges

Oxyhemoglobin saturation 0 - 100%
Total hemoglobin concentration 4 - 25 g/dl
Oxygen content 0-35 ml O₂/dl

Accuracy

%HbO₂ saturation 1%
Total hemoglobin
Less than 10g/dl 0.35 g/dl
More than 10g/dl 0.45 g/dl

Precision

%HbO₂ saturation 0.5%
Total hemoglobin 0.3 g/dl

Sample

Type Whole blood
Volume 50 µl

Time per Sample 7 - 10 sec

Number of Wavelengths 7

Calibration Controls

Hemodynamic Computations 9

No Interference from

Cardio-Green dye
Bilirubin
Hemolysis
Carboxyhemoglobin
Methemoglobin

Power 115/220 VAC
50 - 60 Hz

Dimensions 10"x 8" x 3.75"
(25.4 x 20.4 x 9.5 cm)

Weight 4 lbs (1.8 kg)

Printer Port Serial

Approvals

FCC Class A
UL 544